Fact Sheet #2

Nonpoint Source Water Pollution

Watershed Resources Fact Sheet Series

What Is Nonpoint Source Pollution?

Nonpoint source pollution is another term for polluted water runoff. Water washing over the land, whether from rain, car washing or watering crops or lawns, picks up many contaminants. Oil and sand from roadways, sediment from construction sites, agricultural chemicals from farmland and nutrients and toxic materials from urban and suburban areas are all forms of contaminants. This runoff finds its way into our waterways, either directly or through storm drains.

The term nonpoint distinguishes this type of pollution from point source pollution, which comes from specific sources such as sewage treatment plants or industrial facilities. Scientific evidence shows that, although major point sources have been reduced, our precious water resources are still threatened by the effects of nonpoint source pollution. In fact, the Environmental Protection Agency estimates that this type of pollution is now the greatest threat to our nation's water quality.

Nonpoint source pollution affects natural resources by degrading habitat for aquatic plants and animals in our rivers, streams, lakes and ponds and destroying the beauty of our landscape. Even Missouri's urbanizing areas still contain pockets of rich natural resources which need protection from nonpoint source pollution in order to survive.

Why Should I Care?

The effects of nonpoint source pollution are not limited to large lakes or rivers. Water pollution in your community, and perhaps in your own backyard, can appear as anything from weed-choked ponds to fish kills in a local stream to contaminated drinking water.

There's not much chance that you can ignore this problem, even if you want to. State and federal laws enacted in recent years reflect growing concerns. At the federal level, a permit program for stormwater discharges from certain municipalities and businesses is now underway. Many states have also passed laws altering local land use (planning and zoning) processes and building codes to address the problem of nonpoint source pollution.

In Missouri, the Department of Natural Resources oversees programs to help address nonpoint source water pollution. Some local municipalities also have programs to reduce nonpoint source pollution. The bottom line is that both nonpoint source pollution and its management are likely to affect you and your community in the near future.

What Causes Nonpoint Source Pollution?

You do. We all do. Nonpoint source pollution is the cumulative result of our everyday personal actions and our local land use policies. Here's a brief rundown on the causes and effects of the major types of pollutants carried by runoff.

Pathogens: Pathogens are disease-causing microorganisms, such as bacteria and viruses, that come from human and animal fecal waste. Exposure to pathogens, either from direct contact with water or by eating contaminated fish, can cause a

RIVERS AND STREAMS connect communities and landscapes into watersheds. This series of fact sheets is designed to help you address the effects of development on our water resources and learn the steps communities can take to reduce those impacts. Communities are affected by the activities of their neighbors—upstream or downstream, uphill or downhill—in a common watershed. Working together, watershed neighbors can find solutions to work for everyone.

number of health problems. Because of this, swimming is prohibited and fish consumption warnings are issued when testing reveals significant pathogen levels. Pathogens wash off the land from wildlife, farm animal and pet wastes, and can also enter our waterways from faulty septic tanks, leaky sewer lines and boat sanitary disposal systems.

Nutrients: Nutrients (like nitrogen and phosphorous) stimulate plant growth. Under normal conditions, nutrients are beneficial and necessary, but in high concentrations, they become a threat. Nitrogen contamination of drinking water can cause health problems. Over-fertilization of rivers, ponds and lakes can lead to massive algal blooms. When the algae decays, it creates odors and robs the water of life-sustaining dissolved oxygen. Nutrients in nonpoint source pollution can come from agricultural fertilizers, septic systems, golf courses, home lawn care products and yard and animal wastes.

Sediment: Sand, dirt and gravel eroded by runoff usually ends up in stream beds, lakes or ponds, where they can alter stream flow and decrease healthy aquatic habitat. In addition, many of the other pollutants can adhere to eroded soil particles. Poorly protected construction sites, agricultural fields, roadways and suburban gardens can be major sources of sediment.

Toxic Contaminants: Toxic contaminants can directly harm the health of aquatic life and human beings and are created by a wide variety of human practices and products. Toxins include heavy metals; pesticides; organic compounds like PCB (polychlorinated biphenyl); oil, grease and gasoline from roadways; and chemicals used on gardens, yards, farm crops and in homes. Many toxins do not breakdown easily and can be passed through the food chain becoming concentrated in top predators. Fish consumption advisories may be issued because high levels of toxins are present.

Debris: Trash is without a doubt the simplest type of pollution to understand. It interferes with enjoyment of our water resources and, in the case of plastic and Styrofoam, can be a health threat to aquatic organisms. Typically this debris starts as street litter that is carried by runoff into our waterways.

What Can I Do About All This?

First of all, look at your own activities. Many good publications and programs can help you to do simple but important things, like conserving water, disposing of hazardous waste properly and gardening in an environmentally responsible manner.

As you can see, nonpoint source pollution is the result of how we develop, use and maintain our land. Land use policies are largely decided at the local level, through the actions of officials and local commissions like planning and zoning. There are many techniques and regulations to greatly reduce nonpoint source pollution, and more are being developed daily.

The rest of this fact sheet series is devoted to telling you about your options. If you're on a local board, learn a little more about nonpoint source pollution and how to combat it in the course of your everyday decisions. If you're not on a board, ask your friends and neighbors—especially those on your local board—what they are doing about nonpoint source pollution.

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